

Amendment to the Drawings:

The attached sheets of drawings include a change to Fig. 2.

In Fig. 1, the marking line for element 16 has been extended to properly indicate the position of channels 16.

Attachment: Replacement Sheet including the proposed change
Annotated Sheet showing the change

REMARKS/ARGUMENTS

1. Remarks on the Amendments

The Specification has been amended to correct typographical errors, and provide consistency of the terms in the Specification. Antecedent basis for the amendment of the first paragraph on page 6 can be found in paragraph 4 on page 10 of the Specification as filed. Antecedent basis for the amendment of the last paragraph on page 8 can be found in Claim 2, as filed.

The Abstract has been amended to meet the formality requirement.

Claim 17 has been canceled without prejudice.

Claims 1, 3, 9, 11, 16 and 18-21 have been amended to more specifically define Applicant's claimed invention.

Antecedent basis for the amendment can be found in the claims and the Specification as filed. More specifically, antecedent basis for the amendment of Claim 1(d) can be found on page 6, second paragraph and Fig. 2.

Applicant respectfully submits no new matter has been introduced by the amendments.

2. Response to the Objection of drawings Based Upon 35 U.S.C. §1.83(a)

Applicant submits the amended Fig. 2 herein, which includes the proposed change to marking line of element 16. Formal drawing will be submitted after the Application is allowed.

Applicant respectfully requests withdrawal of the objection on drawings.

3. Response to the Rejection of Claims 1-21 Based Upon 35 U.S.C. §103(a)

Claims 1-16 and 18-21 stand rejected under 35 USC §103(a) as being

unpatentable over Yerushalmi (US Patent No. 4,433,522) in view of Gagliano (US Patent No. 6,578,333 B1). This rejection is respectfully traversed by the amendment.

Claim 1 is an independent claim and Claims 2-16 and 18-21 are dependent claims of Claim 1.

A determination under 25 U.S.C. §103 is whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. *In re Mayne*, 104 F.3d 1339, 1341, 41 USPQ 2d 1451, 1453 (Fed. Cir. 1997). An obviousness determination is based on underlying factual inquiries including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and prior art; and (4) the objective evidence of nonobviousness. *Graham v John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966), see also *Robotic Vision Sys., Inc. v. View Eng'g Inc.*, 189 F.3d 1370 1376, 51 USPQ 2d 1948, 1953 (Fed. Cir. 1999).

In line with this standard, case law provides that "the consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art." *In re Dow Chem.*, 837 F.2d 469, 473, 5 USPQ 2d 1529, 1531 (Fed. Cir. 1988). The first requirement is that a showing of a suggestion, teaching or motivation to combine the prior art references is an "essential evidentiary component of an obviousness holding." *C.R. Bard, Inc. v. M3 Sys. Inc.*, 157 F.3d 1340, 1352, 48 USPQ 2d 1225, 1232 (Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not "evidence." *In re Dembiczak*, 175, F.3d 994, 1000, 50 USPQ 2d 1614, 1617. The second requirement is that the ultimate determination of obviousness must be based on a reasonable expectation of success. *In re O'Farrell*, 853 F.2d 894, 903-904, 7 USPQ 2d 1673, 1681 (Fed. Cir. 1988); see also *In re Longi*, 759 F.2d 887, 897, 225 USPQ 645, 651-52 (Fed. Cir. 1985). The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the

modification. *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ 2d 1780, 1783-84 (Fed. Cir. 1992).

The examiner has the burden of establishing a prima facie case of obviousness. *In re Deuel*, 51 F.3d 1552, 1557, 34 USPQ 2d 1210, 1214 (Fed. Cir. 1995). The burden to rebut a rejection of obviousness does not arise until a prima facie case has been established. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ 2d 1955, 1957 (Fed. Cir. 1993). Only if the burden of the establishing prima facie case is met does the burden of coming forward with rebuttal argument or evidence shift to the application. *In re Deuel*, 51 F.3d 1552, 1557, 34 USPQ 2d 1210, 1214 (Fed. Cir. 1995), see also *Ex parte Obukowicz*, 27 USPQ 2d 1063, 1065 (B.P.A.I. 1992).

Applicant submits that nothing in the art of record teaches or suggests the subject matter positively recited in the amended Claim 1. More specifically, Applicant's claimed blast protective barrier system comprises a plurality of substantially ground level pile caps, each comprising upper and lower xy plane surfaces, each of the upper surfaces including y-axis channels and each of the lower surfaces including multiple substantially z-axis recesses; a plurality of opposing pairs of concrete panels, each having a lower end disposed within the y-axis channels of the pile caps; high shock absorbent material disposed between each pair of the concrete panels; and a plurality of z-axis elongate piles, each of the piles being disposed underground with a z-axis upper end inserted into the substantially z-axis recesses of the lower xy plane surfaces of the pile caps.

Yerushalmi teaches a blast and fragment-resistant protective wall structure, which includes two spaced groups of panels of metal sheets in interlocking relationship and defining the two opposite faces of the wall structure, a plurality of diagonal panels extending between the face panels and in interlocking relationship with them, and a filling material of concrete or asphalt filling the space between the face panels.

Yerushalmi fails to teach Applicant's claimed blast protective barrier system which requires a plurality of piles disposed underground, each with an upper end inserted into one of the substantially z-axis recesses of the lower xy plane surfaces of

the pile caps. As matter of fact, the teaching of using piles in the wall structure is completely absent in Yerushalmi.

It is important to understand that Applicant's claimed blast protective barrier system includes concrete panels as the aboveground structural component, and piles as the underground component; the two components are integrated together by the ground level pile caps. The underground component is a fundamental structural component providing foundation stability in the blast situation.

Gagliano teaches integrated pre-cast footings for a foundation system which requires little or no excavation, and allowing for the preservation of the soil and drainage of the construction site. More specifically, Gagliano teaches pre-cast components which are to be used with driven piles for replacing traditional footing component of a standard foundation. As shown in Figs. 1-3 and described in the reference (Column 4, line 6 to Column 6, line 53), substantial upper portions of the driven piles are positioned above the ground level; they are disposed within sleeves of the two half pre-cast components, and in a diagonally crossing position above the ground level.

Therefore, Gagliano fails to teach Applicant's claimed blast protective barrier system which requires a plurality of piles disposed underground, each with an upper end inserted into one of the substantially z-axis recesses of the lower xy plane surfaces of the ground level pile caps.

The Examiner states that it would have been obvious to one skilled in the art to add to the high shock absorbent wall structure of Yerushalmi as modified by Gagliano such that the footing could be inserted and capped in a concrete base structure.

Applicant respectfully disagrees.

First, Applicant points out that the structures taught by the two references are not combinable. As described above, Yerushalmi's two groups of panels of metal sheets are in interlocking relationship and a plurality of diagonal panels extending between the face panels and in interlocking relationship with them. Such a complex structural design provides stability and structural integrity for a blast resistant wall structure. Upon interlocking, the formed wall structure becomes one integral unit.

On the other hand, Gagliano's integrated pre-cast footing is formed by two half pre-cast components (1i & 1ii), a pair of driven piles (2) and reinforcing elements (5), each of these components being integrated together with a specific structural relationship. In the foundation system, the integrated pre-cast footings are positioned between sections of wall panels, in other words, the system is arranged sequentially by alternating wall panels and footing. If one would add Gagliano's footings to Yerushalmi's wall structure, as suggested by the Examiner, one would have to interrupt Yerushalmi's interlocking metal face panels and diagonal panels in order to fit Gagliano's footings. With these structural interruptions, Yerushalmi's wall structure is no longer an integral unit. Furthermore, at the locations of the footings, no blast resistant components present. Therefore, such a combination would destroy the function of Yerushalmi's blast resistant wall structure, and defeat the purpose of Yerushalmi's design.

Furthermore, Yerushalmi's metal sheet panels are disposed within two annular grooves formed in a concrete base. Gagliano teaches to drive the driven piles from the upper ends of his integrated pre-cast components through the ground surface into the ground. If one would combine the teachings of the two references, as suggested by the Examiner, the driven piles have to be driven through the concrete base, which damages the integrity of the foundation of Yerushalmi's wall structure.

Second, Gagliano's integrated pre-cast footings are not suitable for blast-resistant wall structure, because substantial upper portions of the driven piles are positioned above the ground level. In a situation of explosion, the above ground portions of the piles would experience serious blast impact, hence, affect the foundation of the entire building structure. Gagliano specifically teaches that the pre-cast footings are designed for building construction without excavation, which allows for the preservation of the soil and drainage of the construction site. Gagliano never suggests that his pre-cast footing can be used for a blast resistant building structure.

It is unclear to one skilled in the art how to add Gagliano's pre-cast footing to Yerushalmi's interlocked metal panels and diagonal panels, with all above-identified structural interruptions and incompatibilities. Therefore, one skilled in the art would

not be motivated to try to combine these two references to obtain Applicant's claimed invention, without any reasonable expectation for success.

Accordingly, Applicant maintains that Applicant's claimed invention defined by Claim 1 is not obvious in view of the art of the record.

With regard to Claims 2-16 and 18-21, as described above, these claims are dependent upon independent Claim 1. Under the principles of 35 U.S.C. §112, 4th paragraph, all of the limitations of each independent claim are recited in its respective dependent claims. As described above, independent Claim 1 is unobvious in view of the prior art of record, as such Claims 2-16 and 18-21 are submitted as being allowable over the art of record.

Accordingly, Applicants respectfully request withdrawal of the rejection of Claims 1-21 based upon 35 U.S.C. §103(a).

It is respectfully submitted that Claims 1-16 and 18-21, the pending claims, are now in condition for allowance and such action is respectfully requested.

Applicants' Agent respectfully requests direct telephone communication from the Examiner with a view toward any further action deemed necessary to place the application in final condition for allowance.

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Date of Signature

By: 
Yi Li
Registration No. 44,211

Please address all correspondence to:
Melvin K. Silverman
500 Cypress Creek Road
Suite 500
Fort Lauderdale, Florida 33309
Telephone: (954) 351-7474
Facsimile: (954) 492-0087

